Propane, 1,1,2,2,3-pentafluoro-

Other names:	1,1,2,2,3-Pentafluoropropane
	HFC-245ca
	R 245ca
Inchi:	InChI=1S/C3H3F5/c4-1-3(7,8)2(5)6/h2H,1H2
InchiKey:	AWTOFSDLNREIFS-UHFFFAOYSA-N
Formula:	C3H3F5
SMILES:	FCC(F)(F)C(F)F
Mol. weight [g/mol]:	134.05
CAS:	679-86-7

Physical Properties

Property code	Value	Unit	Source
gf	-999.27	kJ/mol	Joback Method
hf	-1099.83	kJ/mol	Joback Method
hfus	7.99	kJ/mol	Joback Method
hvap	16.50	kJ/mol	Joback Method
log10ws	-1.56		Crippen Method
logp	1.856		Crippen Method
mcvol	61.980	ml/mol	McGowan Method
pc	3443.98	kPa	Joback Method
tb	298.10 ± 0.50	K	NIST Webbook
tc	389.96	K	Joback Method
tf	113.94	K	Joback Method
vc	0.277	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	133.51	J/mol×K	368.42	Joback Method
cpg	104.73	J/mol×K	260.72	Joback Method
cpg	111.01	J/mol×K	282.26	Joback Method
cpg	117.02	J/mol×K	303.80	Joback Method
cpg	122.77	J/mol×K	325.34	Joback Method
cpg	128.26	J/mol×K	346.88	Joback Method

cpg	138.51	J/mol×K	389.96	Joback Method
hvapt	30.20	kJ/mol	305.50	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.68284e+01
Coeff. B	-3.34674e+03
Coeff. C	-2.43140e+01
Temperature range (K), min.	226.65
Temperature range (K), max.	407.57

Sources

McGowan Method: http://link.springer.com/article/10.1007/BF02311772

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C679867&Units=SI

The Yaws Handbook of Vapor Pressure: https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure

Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l

Crippen Method: https://www.chemeo.com/doc/models/crippen_log10ws

Joback Method: https://en.wikipedia.org/wiki/Joback_method

Legend

cpg: Ideal gas heat capacity

gf: Standard Gibbs free energy of formation

hf: Enthalpy of formation at standard conditions

hfus: Enthalpy of fusion at standard conditions

hvap: Enthalpy of vaporization at standard conditions

hvapt: Enthalpy of vaporization at a given temperature

log10ws: Log10 of Water solubility in mol/l

logp: Octanol/Water partition coefficient

mcvol: McGowan's characteristic volume

pc: Critical Pressure

pvap:	Vapor pressure
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume